LYNNWOOD WASHINGTON
DEVELOPMENT & BUSINESS SERVICES

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Grease Interceptor Sizing and Installation Guidelines

Use this document to help you determine the correct size needed for Grease Interceptors

Grease protection is an essential element for restaurants, cafes, catering facilities, commissaries, hotels, cafeterias, convenience stores, full service grocery stores, schools, hospitals, and food manufacturing plants. Grease interceptors are installed on "gray" water drain lines and are designed to remove fats, oils, and grease (FOG) from wastewater. The retained FOG should be regularly removed or pumped out of the interceptor. The interceptor must be cleaned whenever 25 percent of any chamber becomes filled with FOG or solids

Definitions

Hydromechanical Grease Interceptors (HGIs) can be located inside or outside the facility and are required to have an approved type of vented flow restrictor. Flow restrictors slow the flow of water entering the grease interceptor. The total capacity of the fixtures discharging into an HGI, in gallons, shall not exceed two and one half (2 ½) times the certified gallons-per-minute flow rate of the interceptor.

Gravity Grease Interceptors (GGIs) are generally installed in the ground outside the facility, upstream from the "black" water (sanitary waste) drain line and are at least 750 gallons in capacity, and no larger then 4,000 gallons without prior approval from the director. If the calculated minimum size is larger than this, two interceptors of approximately equal size shall be installed in series.

A Drainage Fixture Unit (DFU) is a unit of measure for the load-producing effects on a plumbing system from different kinds of plumbing fixtures. Things like produce prep sinks and hand washing sinks do not need to be connected to the grease device. If they are not plumbed into the device, then they should not be included in the sizing calculation.

Examples of DFU Calculations

- Table 1 ("Determining DFUs") lists the number of DFUs per fixture
- Table 2 ("Fixture Equivalents") lists the number of DFUs per pipe diameter

Example 1: Restaurant with 40 seats, serves 120 meals per hour*

3-comp sink (9 DFUs)
2-comp food prep sink (6 DFUs)
mop sink (3 DFUs)
3 hand washing sinks (3 DFUs)
2 floor drains (4 DFUs)
+ dishwasher with 2" pipe to floor sink (2"drain line for 4 DFUs)
Total = 29 DFUs

*Meals per peak hour is determined by multiplying the number of seats by 60, and dividing by the estimated time (minutes) it takes for a patron to eat.

Example 2: Restaurant with 40 seats, serves 40 meals per hour* or less:

3-comp sink (9 DFUs)
2-comp food prep sink (not connected)
mop sink (3 DFUs)
hand wash sink (not connected),
pre-rinse sink (3 DFU's)
+ dishwasher (not connected)
Total = 15 DFUs

Table 1		
Type of Fixture	**# of DFUs**	**Comments**
3-compartment sink	9	
2-compartment sink	Use floor sink criteria based upon drain size or number of sinks, whichever is larger	Each compartment is 3 DFUs.
Floor sinks	DFUs based upon sink drain size*	See table 2 below or section 702.1 in the UPC. *Floor sinks that receive only ice machine and cooler condensate are not counted.
Mop sink	3	If cooking meat, then new mop sinks must be connected to grease protection.
Wok sink	3	
Floor drains	2	
Trench drains	2 DFUs per lineal foot of drain	
Soup Kettle	2 DFUs per lineal foot of trench drain	
Braziers	2 DFUs per lineal foot of trench drain	
Steam tables	Use floor sink or trench drain criteria, whichever is appropriate.	
Dishwasher pre-rinse sink	3	
Dishwashers	Use floor sink criteria	
Food waste disposers, including pulpers	Use next larger size of GGI than would otherwise be required	FOG bearing food waste disposers can only discharge to properly sized GGIs

Table 2	
Fixture Unit Equivalents from section 702.1 of the UPC	
Drain Size in Inches	DFUs
1-1/4	1
1-1/2	3
2	4
3	6
4	8

Table 3		
Pipe Size, GPM, Maximum DFU Count		
Pipe Size, Inches	Max. Full Pipe Flow (gpm)	Max. DFU Count
2	20	8
2-1/2	38.2	14
3	60	35
4	125	216
5	230	428
6	375	720

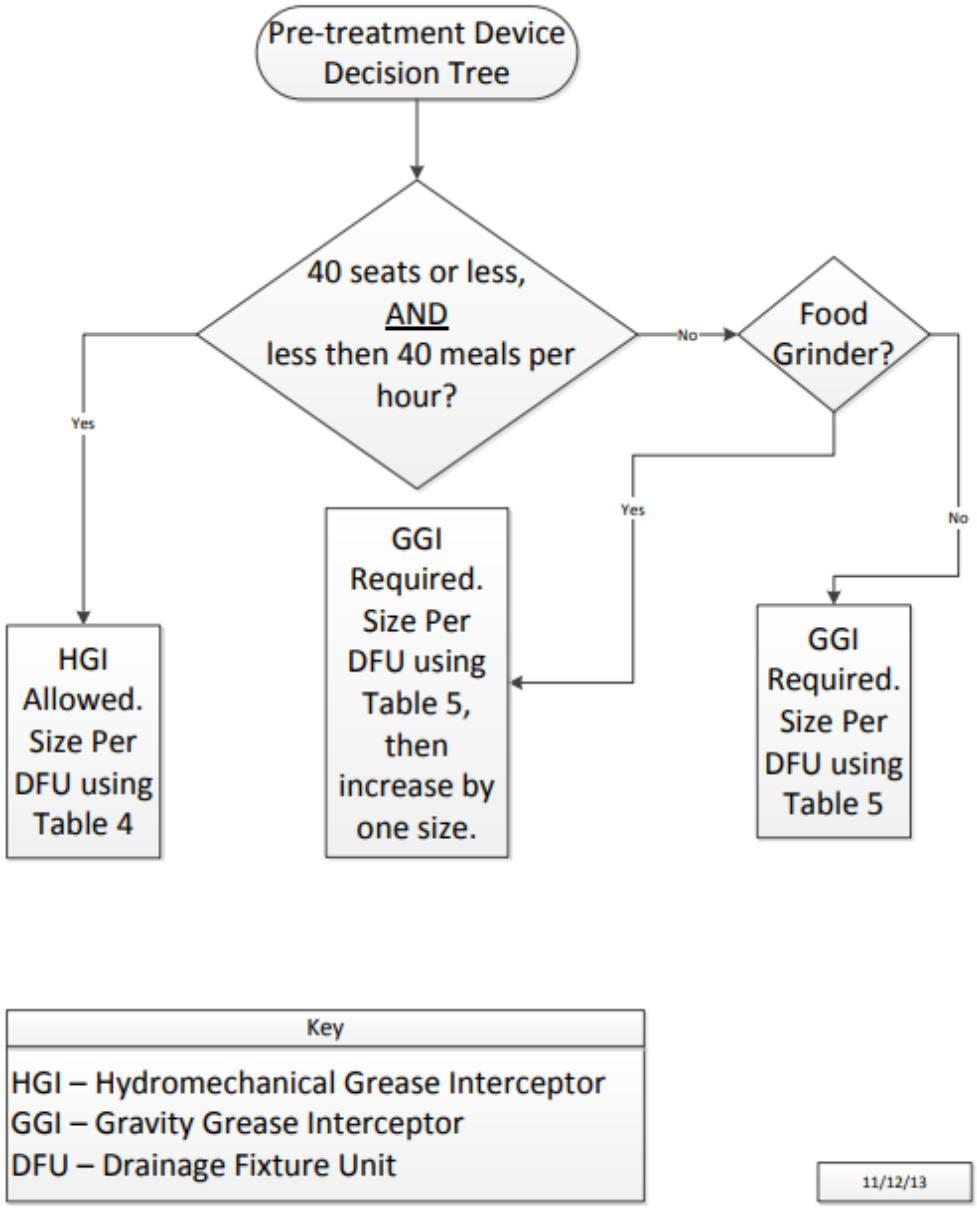
Table 4	
Hydromechanical Grease Interceptor (HGI) Sizing Chart	
DFUs[1]	HGI Flow (gpm)
8	20
10	25
13	35
20	50
35	75
172	100
216	150
342	200
428	250
576	350
720	500

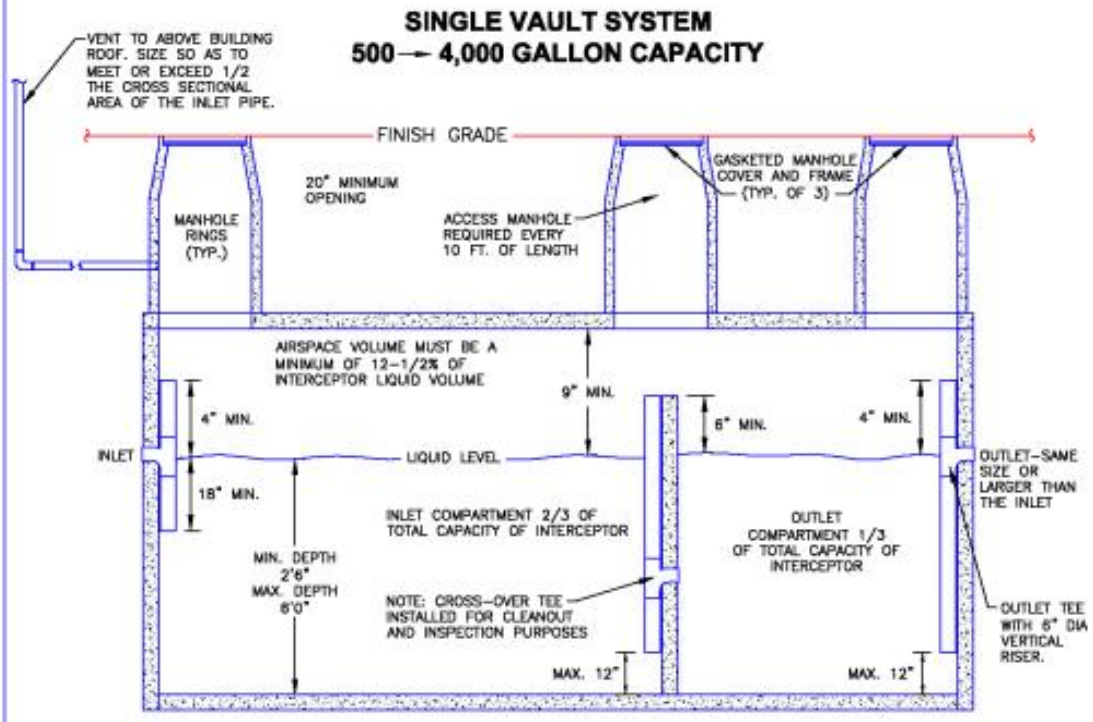
[1] The maximum allowable number of DFUs that can be connected to the grease interceptor.

Table 5	
Gravity Grease Interceptor (GGI) Sizing	
DFUs[1]	GGI Volume
8	500 gallons
21	750 gallons
35	1,000 gallons
90	1,250 gallons
172	1,500 gallons
216	2,000 gallons
307	2,500 gallons
342	3,000 gallons
428	4,000 gallons
576	5,000 gallons
720	7,500 gallons
2112	10,000 gallons
2640	15,000 gallons

The information in the above tables is from section 702.0 and tables 7-5, 10-2 and 10-3 of the Uniform Plumbing Code.

Pre-treatment Device Decision Tree
Fats Oils and Grease (FOG)
Pretreatment Device Decision Tree





1. Interceptors are to be sized and installed per the requirements of the UPC and the City of Tacoma.
2. Interceptor shall be installed and connected so that it is accessible at all times for inspection, cleaning, and removal of intercepted grease.
3. Core drill all penetrations in vault.
4. Install outlet tee with 6" diameter vertical riser.
5. Fill vault with clean water prior to beginning service.
6. Interceptor shall be cleaned whenever 25 percent of any compartment becomes filled with grease and solids.
7. For assistance in properly sizing an interceptor please call Environmental Services at 253-591-5588.